

10/796,822

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NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 Jul 12 BEILSTEIN enhanced with new display and select options,  
resulting in a closer connection to BABS  
NEWS 4 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction  
with the 228th ACS National Meeting  
NEWS 5 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display  
fields  
NEWS 6 AUG 02 CAplus and CA patent records enhanced with European and Japan  
Patent Office Classifications  
NEWS 7 AUG 02 The Analysis Edition of STN Express with Discover!  
(Version 7.01 for Windows) now available  
NEWS 8 AUG 04 Pricing for the Save Answers for SciFinder Wizard within  
STN Express with Discover! will change September 1, 2004  
NEWS 9 AUG 27 BIOCOMMERCE: Changes and enhancements to content coverage  
NEWS 10 AUG 27 BIOTECHABS/BIOTECHDS: Two new display fields added for legal  
status data from INPADOC  
NEWS 11 SEP 01 INPADOC: New family current-awareness alert (SDI) available  
NEWS 12 SEP 01 New pricing for the Save Answers for SciFinder Wizard within  
STN Express with Discover!  
NEWS 13 SEP 01 New display format, HITSTR, available in WPIDS/WPINDEX/WPIX  
NEWS 14 SEP 14 STN Patent Forum to be held October 13, 2004, in Iselin, NJ  
  
NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004  
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FILE 'HOME' ENTERED AT 15:00:16 ON 22 SEP 2004

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=> file reg

COST IN U.S. DOLLARS

SINCE FILE  
ENTRY

TOTAL  
SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 15:00:25 ON 22 SEP 2004

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STRUCTURE FILE UPDATES: 21 SEP 2004 HIGHEST RN 749178-43-6

DICTIONARY FILE UPDATES: 21 SEP 2004 HIGHEST RN 749178-43-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

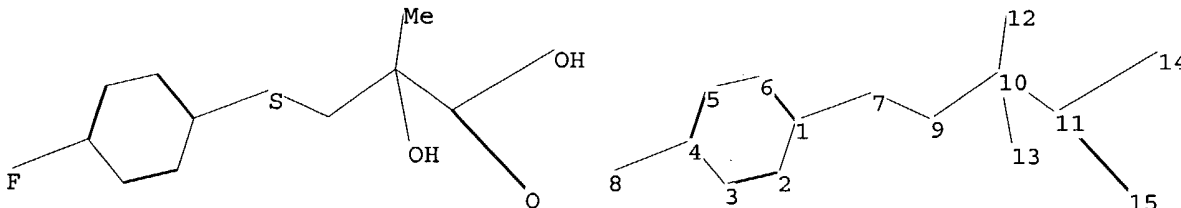
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

Uploading C:\STNEXP4\QUERIES\10796822.str



chain nodes :

7 8 9 10 11 12 13 14 15

ring nodes :

1 2 3 4 5 6

chain bonds :

1-7 4-8 7-9 9-10 10-11 10-12 10-13 11-14 11-15

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

1-7 7-9 10-13

exact bonds :

4-8 9-10 10-11 10-12

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 11-14 11-15

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS  
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS

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L1 STRUCTURE UPLOADED

=> s l1

SAMPLE SEARCH INITIATED 15:00:41 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS 1 ANSWERS  
SEARCH TIME: 00.00.01

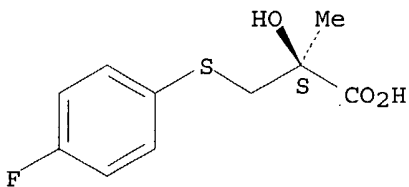
FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 1 TO 80  
PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> d scan

L2 1 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl-, (2S)- (9CI)  
MF C10 H11 F O3 S  
CI COM

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

=> s l1 ful

FULL SEARCH INITIATED 15:00:55 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 25 TO ITERATE

100.0% PROCESSED 25 ITERATIONS 6 ANSWERS  
SEARCH TIME: 00.00.01

L3 6 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

155.42

155.63

FILE 'CAPLUS' ENTERED AT 15:01:01 ON 22 SEP 2004

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FILE COVERS 1907 - 22 Sep 2004 VOL 141 ISS 13

FILE LAST UPDATED: 21 Sep 2004 (20040921/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3

L4 7 L3

=> d l4 ibib hitstr abs 1-7

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:182593 CAPLUS

DOCUMENT NUMBER: 140:235504

TITLE: Preparation and crystallization of bicalutamide

INVENTOR(S): Dolitzky, Ben-Zion; Reany, Ofer; Shammai, Jenny

PATENT ASSIGNEE(S): Israel

SOURCE: U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S. Ser. No. 170,721.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004044249	A1	20040304	US 2003-606403	20030625
US 2003045741	A1	20030306	US 2002-170721	20020613
US 6737550	B2	20040518		
US 2004059147	A1	20040325	US 2003-668982	20030922
US 2004167349	A1	20040826	US 2004-791468	20040301
US 2004176633	A1	20040909	US 2004-796313	20040308
US 2004176638	A1	20040909	US 2004-796822	20040308
PRIORITY APPLN. INFO.:			US 2001-298009P	P 20010613
			US 2002-371069P	P 20020409
			US 2002-170721	A2 20020613

OTHER SOURCE(S): CASREACT 140:235504

IT 339530-91-5P

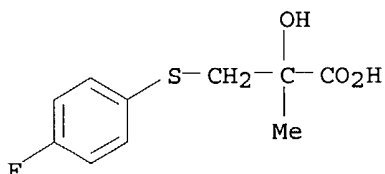
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation, micronization and crystallization of bicalutamide)

RN 339530-91-5 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl- (9CI) (CA

INDEX NAME)



AB Racemic N-[4-cyano-3-trifluoromethylphenyl]-3-[4-fluorophenylsulfonyl]-2-hydroxy-2-methylpropionamide (bicalutamide) was prepared starting from Et pyruvate and Me methacrylate. Thus, 5-amino-2-cyanobenzotrifluoride was treated with DABCO and reacted with deprotonated Et 2-(4-fluorophenylsulfonyl)-2-hydroxy-2-methylpropionate (prepared from Et pyruvate) to give 40% bicalutamide. Micronized particles of bicalutamide can be obtained as pharmaceutical compns. that are useful for its anti-androgen activity (no data). Bicalutamide intermediates were also prepared, including Et 2-(4-fluorophenylsulfonyl)-2-hydroxy-2-methylpropionate, Me 2,3-epoxy-2-methylpropionate and 2-hydroxy-2-methyl-3-(4-fluorophenylthio)propionic acid. The present invention further discloses the isolation and purification of bicalutamide by various crystallization methods.

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:790626 CAPLUS

DOCUMENT NUMBER: 140:270600

TITLE: Synthesis of bicalutamide

AUTHOR(S): Xiao, Tao; Zhang, Xiao-qing; Tian, Chun-mei; Wang, Jin-tang

CORPORATE SOURCE: Department of Applied Chemistry, Nanjing University of Chemical Technology, Nanjing, 210009, Peop. Rep. China

SOURCE: Hecheng Huaxue (2003), 11(4), 346-348

CODEN: HEHUE2; ISSN: 1005-1511

PUBLISHER: Hecheng Huaxue Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

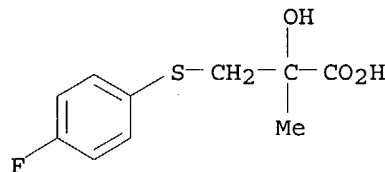
OTHER SOURCE(S): CASREACT 140:270600

IT 339530-91-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis of bicalutamide)

RN 339530-91-5 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl- (9CI) (CA INDEX NAME)



AB Bicalutamide was synthesized from Me methacrylate via oxidation, condensation with 4-fluorothiophenol and hydrolysis to give  $\alpha$ -hydroxy acid which was first reacted with 2-trifluoromethyl-4-aminobenzonitrile and then

oxidized with m-chloroperoxybenzoic acid. The overall yield was about 11.2%.

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:964133 CAPLUS  
DOCUMENT NUMBER: 138:24551  
TITLE: Preparation of rac-bicalutamide  
INVENTOR(S): Dolitzky, Ben-Zion; Reany, Ofer; Shamai, Jenny  
PATENT ASSIGNEE(S): Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceuticals USA, Inc.; Biogal Gyogyszergyar  
SOURCE: PCT Int. Appl., 22 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002100339	A2	20021219	WO 2002-US18329	20020613
WO 2002100339	A3	20031016		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1406855	A2	20040414	EP 2002-739801	20020613
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.:			US 2001-298009P	P 20010613
			US 2002-371069P	P 20020409
			WO 2002-US18329	W 20020613

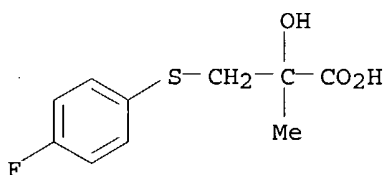
OTHER SOURCE(S): CASREACT 138:24551

IT 339530-91-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of rac-bicalutamide)

RN 339530-91-5 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl- (9CI) (CA INDEX NAME)



AB Racemic and optically active N-[4-cyano-3-trifluoromethylphenyl]-3-[4-fluorophenylsulfonyl]-2-hydroxy-2-Me propionamide (bicalutamide) were prepared starting from Et pyruvate and Me methacrylate. Thus, 5-amino-2-cyanobenzotrifluoride was treated with DABCO and reacted with deprotonated ethyl-[2-(4-fluorophenyl sulfone)]-2-hydroxy propionate

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(prepared from Et pyruvate) to give %40 rac-bicalutamide. Micronized particles of rac-bicalutamide can be obtained as pharmaceutical compns. that are useful for its anti-androgen activity (no data). Bicalutamide intermediates were also prepared, including ethyl-[2-(4-fluorophenyl sulfone)]-2-hydroxy propionate, 1,2-epoxy-2-Me propionate and 2-hydroxy-2-methyl-3-(4-fluorophenylthio) propionic acid.

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:509907 CAPLUS

DOCUMENT NUMBER: 137:384623

TITLE: Syntheses of enantiomerically pure (R)- and (S)-bicalutamide

AUTHOR(S): James, Kenneth D.; Ekwuribe, Nnochiri N.

CORPORATE SOURCE: Department of Innovation, Nobex Corporation, Durham, NC, 27713, USA

SOURCE: Tetrahedron (2002), 58(29), 5905-5908

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:384623

IT 335595-52-3P

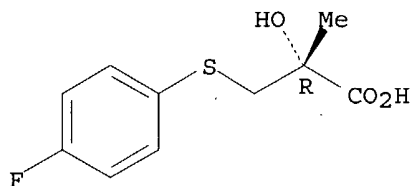
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(syntheses of enantiomerically pure (R)- and (S)-bicalutamide)

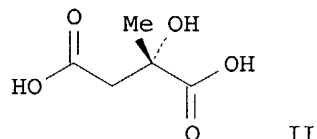
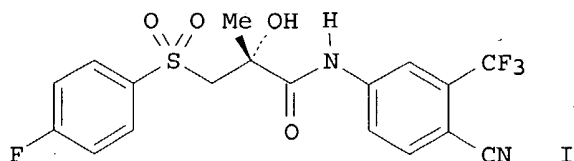
RN 335595-52-3 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl-, (2R)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



GI



AB The racemic antiandrogen bicalutamide is the leading antiandrogen used for the treatment of prostate cancer. The (R)-isomer possesses virtually all of the activity, but both isomers are metabolized by the liver. A convenient synthetic route to the active enantiomer would be an attractive option for patients who are hepatically impaired. We now demonstrate a rather short synthesis of (R)-bicalutamide (I), starting with naturally occurring (S)-citramalic acid (II). The authors have also used this procedure to synthesize the less active (S)-bicalutamide from the unnatural (R)-citramalic acid.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:359958 CAPLUS

DOCUMENT NUMBER: 134:366692

TITLE: Resolution of intermediates in the synthesis of enantiomeric bicalutamide and analogs

INVENTOR(S): Ekwuribe, Nnochiri N.; James, Kenneth D.

PATENT ASSIGNEE(S): Nobex Corporation, USA

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001034563	A1	20010517	WO 2000-US41609	20001025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2000015124	A	20020702	BR 2000-15124	20001025
EP 1224167	A1	20020724	EP 2000-989719	20001025



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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL

JP 2003513955	T2	20030415	JP 2001-536512	20001025
US 6593492	B1	20030715	US 2000-695884	20001025
NZ 518552	A	20031031	NZ 2000-518552	20001025
ZA 2002003228	A	20030723	ZA 2002-3228	20020423
NO 2002001999	A	20020620	NO 2002-1999	20020426

PRIORITY APPLN. INFO.:

US 1999-161884P	P	19991027
WO 2000-US41609	W	20001025

OTHER SOURCE(S): MARPAT 134:366692

IT 339530-92-6P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(resolution of intermediates in the synthesis of enantiomeric bicalutamide and analogs)

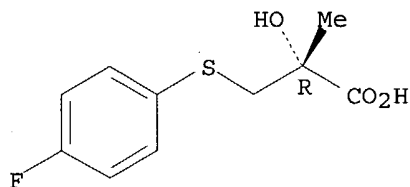
RN 339530-92-6 CAPLUS

CN Cinchonan-9-ol, (8 $\alpha$ ,9R)-, mono[(2R)-3-[(4-fluorophenyl)thio]-2-hydroxy-2-methylpropanoate] (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 335595-52-3  
CMF C10 H11 F O3 S

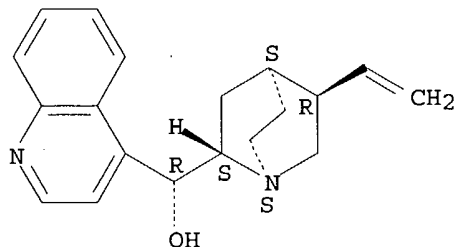
Absolute stereochemistry.



CM 2

CRN 485-71-2  
CMF C19 H22 N2 O

Absolute stereochemistry.



IT 339530-91-5

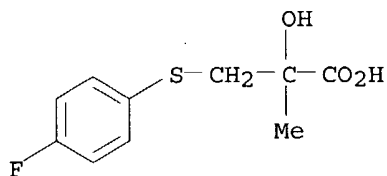
RL: RCT (Reactant); RACT (Reactant or reagent)  
(resolution of intermediates in the synthesis of enantiomeric bicalutamide and analogs)

RN 339530-91-5 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl- (9CI) (CA

10/796,822

INDEX NAME)



IT 339530-94-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(resolution of intermediates in the synthesis of enantiomeric bicalutamide and analogs)

RN 339530-94-8 CAPLUS

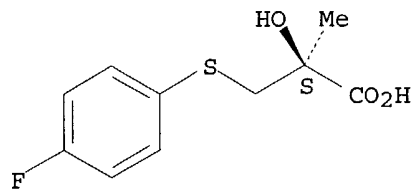
CN Cinchonan-9-ol, (8 $\alpha$ ,9R)-, mono[(2S)-3-[(4-fluorophenyl)thio]-2-hydroxy-2-methylpropanoate] (salt) (9CI) (CA INDEX NAME)

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CRN 339530-93-7

CMF C10 H11 F O3 S

Absolute stereochemistry.

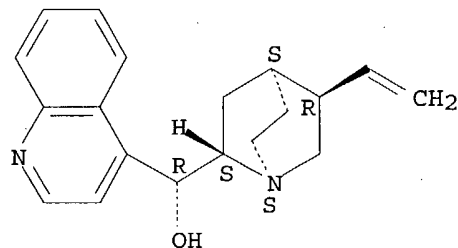


CM 2

CRN 485-71-2

CMF C19 H22 N2 O

Absolute stereochemistry.



AB Title enantiomeric acylanilides were prepared by resolution of  
R4ZZ1Z2CR1(OH)CO2H [R1 = (halo)alkyl; R4 = (hydroxy)alkyl, alkenyl,  
(un)substituted Ph, etc.; Z = bond or alkylene; Z1 = O, SO0-2,  
(alkyl)imino; Z2 = alkylene] followed by amidation.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:300671 CAPLUS

DOCUMENT NUMBER: 134:326279

TITLE: Asymmetric synthesis and antiandrogenic use of enantiomers of Casodex (bicalutamide) and derivatives from enantiomers of citramalic acid or proline.

INVENTOR(S): Ekwuribe, Nnochiri

PATENT ASSIGNEE(S): Nobex Corporation, USA

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001028990	A2	20010426	WO 2000-US41233	20001018
WO 2001028990	A3	20010907		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1222165	A2	20020717	EP 2000-982690	20001018
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
BR 2000014889	A	20021231	BR 2000-14889	20001018
JP 2003512351	T2	20030402	JP 2001-531790	20001018
US 6583306	B1	20030624	US 2000-691621	20001018
NZ 518392	A	20040227	NZ 2000-518392	20001018
ZA 2002002947	A	20030715	ZA 2002-2947	20020415
NO 2002001831	A	20020619	NO 2002-1831	20020418
US 2004030130	A1	20040212	US 2003-444343	20030523
PRIORITY APPLN. INFO.:			US 1999-160412P	P 19991019
			US 2000-691621	A3 20001018
			WO 2000-US41233	W 20001018

OTHER SOURCE(S): CASREACT 134:326279; MARPAT 134:326279

IT 335595-52-3P

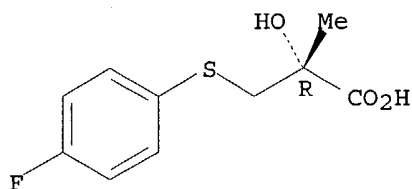
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(asym. synthesis (and use) of (R)- and (S)-Casodex (bicalutamide) from (S)- and (R)-citramalic acid)

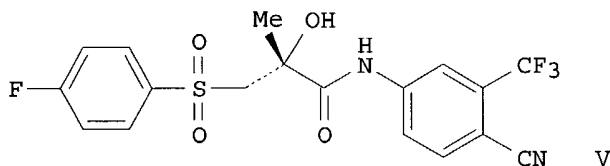
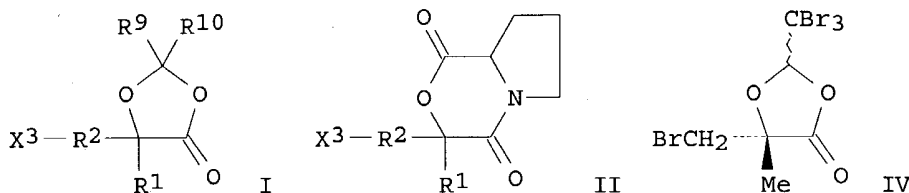
RN 335595-52-3 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)thio]-2-hydroxy-2-methyl-, (2R)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



GI



AB A method of synthesizing pure enantiomers of acylanilides such as Casodex (bicalutamide) is disclosed. The method involves contacting certain ring compds. including I, II, or similar gem-disubstituted epoxides with nucleophiles R7-R6-X1H under conditions sufficient to provide a compound R7-R6-X2-R2-C(OH)(R1)-CO<sub>2</sub>H [wherein; R1 is alkyl or haloalkyl up to C<sub>4</sub>; R2 is alkyl up to C<sub>6</sub>; R6 is a bond or alkyl up to C<sub>6</sub>; R7 is alk(en)yl, hydroxyalkyl, etc. or R7 is Ph (substituted with up to 3 substituents chosen from H, halo, nitro, carboxy, carbamoyl, etc.); X1 is O, S(O)<sub>0-2</sub>, or (alkyl)imino; X2 is O, S(O)<sub>0-2</sub> or (oxidized)(alkyl)imino; X3 is a leaving group]. The starting ring compds. are those that, when opened, provide a substituent -R2-C(OH)(R1)-R3 [wherein; R3 is CH<sub>2</sub>OR<sub>4</sub>, where R<sub>4</sub> is H, PhCH<sub>2</sub>, C(O)CH<sub>3</sub>, C(O)OR<sub>5</sub>, where R<sub>5</sub> is H or alkyl]. In an exemplary embodiment, readily available (S)-citramalic acid is reacted with bromal to yield I (R<sub>9</sub> = H, R<sub>10</sub> is CBr<sub>3</sub>, R<sub>1</sub> is β-Me, R<sub>2</sub> is α-CH<sub>2</sub> and X<sub>3</sub> is CO<sub>2</sub>H; III). Compound III is condensed with 2-mercaptopyridine-N-oxide using DCC in CBrCl<sub>3</sub> (solvent) at reflux which resulted in α-bromination/decarboxylation to IV. Intermediate IV was sequentially treated with base and 4-fluorobenzenethiol, coupled with 4-amino-2-trifluoromethylbenzonitrile and oxidized with mCPBA to give (R)-Casodex (V). The order of steps in the conversion of I or II to compds. exemplified by V may vary (e.g. substitution and oxidation of a sidechain of I may precede ring opening). The conversion of (R)-citramalic acid to (S)-Casodex is also claimed. Addnl., the invention mentions a modification of a route previously described for the

transformation of (R)- and (S)-proline to (R)- and (S)-Casodex that improves yield proceeding through a proline-derived intermediate II. Biol. data comparing (R)-, (S)- and (±)-Casodex, synthesized by this method, in lowering testosterone response showed (R)-Casodex to be substantially more potent than the (S)-isomer.

L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:640883 CAPLUS

DOCUMENT NUMBER: 119:240883

TITLE: Metabolism of Casodex in laboratory animals

AUTHOR(S): Boyle, G. W.; McKillop, D.; Phillips, P. J.; Harding, J. R.; Pickford, R.; McCormick, A. D.

CORPORATE SOURCE: Saf. Med. Dep., ICI Pharm., Alderley Park/Macclesfield/Cheshire, SK10 4TG, UK

SOURCE: Xenobiotica (1993), 23(7), 781-98

CODEN: XENOBH; ISSN: 0049-8254

DOCUMENT TYPE: Journal

LANGUAGE: English

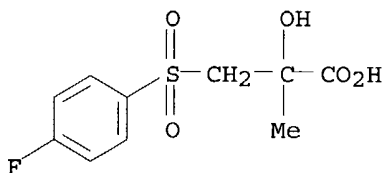
IT 151262-57-6

RL: FORM (Formation, nonpreparative)

(formation of, as Casodex metabolite, species differences in)

RN 151262-57-6 CAPLUS

CN Propanoic acid, 3-[(4-fluorophenyl)sulfonyl]-2-hydroxy-2-methyl- (9CI).  
(CA INDEX NAME)



AB Casodex, a non-steroidal antiandrogen, was eliminated primarily in feces by rat, mouse, rabbit and dog. Rat, mouse and rabbit eliminated 20-30% of a single oral dose (8-25 mg/kg) in urine; only 3-4% was excreted in urine by dog (2.5 mg/kg). Oral absorption was about 80% in rat, mouse, rabbit and dog. Most of the dose was recovered in 48 h from rat, mouse and rabbit. In rat, <1% of the dose was exhaled as  $^{14}\text{CO}_2$  and <1% remained in the carcass after 7 days. Recovery from dog was incomplete in 4 days but consistent with the long plasma elimination half-life of 7-7.5 days. Casodex was eliminated from rat plasma with a half-life of 17-21 h.

Examination of urine indicated extensive metabolism of Casodex and showed a marked

species difference. In rat, mouse and dog. Casodex was cleaved at the amide to yield a carboxylic acid and an aromatic amine which subsequently underwent ring hydroxylation with sulfate conjugation. In rabbit, the major urinary metabolite was Casodex glucuronide, conjugated on the tertiary hydroxyl. The major component in feces of all species was unchanged Casodex; some hydroxy-Casodex was also observed in rat feces. Anal. of rat and dog bile indicated that Casodex and hydroxy-Casodex were eliminated in bile primarily as glucuronide conjugates.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

33.76

189.39

10/796,822

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

CA SUBSCRIBER PRICE

ENTRY

SESSION

-4.90

-4.90

STN INTERNATIONAL LOGOFF AT 15:01:31 ON 22 SEP 2004